

Ware River has been in business since 1980 and services many hydropower plants throughout New England, although not many in Massachusetts as a result of the current market. Ware River Power also owns several hydropower plants in the Commonwealth.

Pre-existing hydroelectric facilities with less than 5 MWH of capacity with FERC licenses or exemptions have little or no chance of qualifying for the MA RPS or any RPS market due to stringent regulations imposed by the Massachusetts Dept. of Energy Resources. Requiring these hydro sites to go through the LIHI process is too expensive and cumbersome, especially for small sites under 1.5 MWH, but without access to the RPS market, small hydro sites cannot survive as viable renewable energy producers.

ISO rates for energy from hydroelectric facilities that do not have access to the RPS markets currently average .04 cents per KWh. For this reason, small hydropower facilities earn considerably less average revenue than solar facilities producing the same energy output. For example, Powder Mill and South Barre Hydro, which have a combined average annual output of 1,600,000 KWh, have an average annual revenue of \$64,000, while a nearby solar farm with the same average annual output has an average annual revenue of \$448,000 – seven times the revenue brought in by both dams for an equal amount of energy produced.

Powder Mill is in need of serious repairs in order to remain operational. For example, the trash racks have become corroded and started to collapse, and will not be able to be replaced in time for the dam to go back online this fall. One of the turbines at the South Barre dam badly needs to be repaired. Powder Mill and South Barre will not be able to afford to make these repairs if its annual revenues stay as they are, and will be forced to shut down. The initial application to LIHI imposed an application cost of \$9000, which is already 36% of the plant's entire annual gross revenue. This does not include the additional \$750 Intake Review fees and LIHI annual fees, which would total \$1350 for both sites. The sites must also be re-certified every five years, which is extremely cumbersome and could potentially cost another \$4500 per dam. In addition, small hydro plants like Powder Mill and South Barre that do not qualify for the RPS market cannot get grant funding from the CEC.

In addition to the high application cost, LIHI has also imposed unnecessarily stringent requirements on the Powder Mill and South Barre facilities. The U.S. and Massachusetts Fish & Wildlife Services have the right to require upstream and downstream fish and eel passage as a requirement of the license exemption issued by FERC. To date, they have not. In our opinion, the reason for this is that the dam immediately upstream of Powder Mill and South Barre is the MWRA diversion shaft to the Quabbin Reservoir. There are twelve dams downstream of Powder Mill and South Barre and none of them have eel passage. However, LIHI, as a reviewer, has suggested that Powder Mill and South Barre would not be considered "low-impact" without providing eel passage. Even if eel passage were adopted on all fourteen dams in the Chicopee River Watershed up to the MWRA, it is doubtful that the MWRA would install eel passage and allow the American eel to infiltrate the Quabbin Reservoir and Boston's drinking water.

There are many other small hydropower facilities in Massachusetts that are facing a similar situation of financial distress as a result of the current energy market rates and the LIHI requirement to join the RPS.

These are the sites that Ware River Power knows from working on them. The output is estimated. More research would be necessary to get a full list and a more accurate idea of current capacity.

| Facility Name/Location | Facility Owner | Capacity (estimated) | Status |
|-------------------------------|------------------------------|-----------------------------|--|
| Thorndike Upper | French River Land | 450 KW | Operating at partial capacity |
| Thorndike Lower | French River Land | 450 KW | Operating at partial capacity |
| Winchendon | French River Land | 200 KW | Partially operable |
| Winchendon | O'Connell Energy Development | 150 KW | Under development, awaiting RPS |
| Athol | L.P. Athol | 420 KW | Currently functioning, but in need of repair |
| Athol | L.P. Athol | 300 KW | Currently functioning, but in need of repair |
| Orange | O'Connell Energy Development | 700 KW | Awaiting RPS, 66% operational |
| Webster Hydro | Ware River Power | 300 KW | One turbine non-functional, 50% operational |
| Methuen Hydro | Olsen Electric Development | 400 KW | One turbine non-functional, 60% operational |

Under the current DOER system, small hydropower facilities are being forced out of existence by low ISO rates and prohibitive LIHI application costs and requirements. Allowing small hydroelectric plants to cease operation or decrease capacity while simultaneously proposing importing hydropower from Hydro Quebec seems to be a very backwards energy policy. Allowing small hydro facilities to qualify as Class II Renewable without having to go through the LIHI process will ultimately increase sustainable energy production in Massachusetts. Furthermore, all hydro under 1.5 MWH should qualify for net metering and all hydro under 500 KW, existing or proposed, should qualify for Class I RPS. This would bring hydro onto a level playing field with solar facilities.



Figure 1. Corroded trash rack at Powder Mill dam.



Figure 2. Turbine at South Barre dam.





Figure 3. Solar field adjacent to Powder Mill facility.